Before the
Federal Communications Commission
Washington, DC 20554

Request of The National Association of State 911	)	
	)	
Administrators to Address Issues Related to	)	RM - 11780
	)	
911 Applications for Smartphones	)	

COMMENTS OF BANDWIDTH.COM, INC.

I. INTRODUCTION/ SUMMARY

Based in Raleigh, North Carolina, Bandwidth.com, Inc. ("Bandwidth") is one of the nation's leading providers of Internet Protocol (IP)-based communications services. Among the most important of Bandwidth's IP-enabled services are emergency calling services, which include supporting emergency calling from over-the top ("OTT") applications on smartphones. Bandwidth was a participant in the Commission's 911 Apps Workshop[1] and appreciates the Commission's ongoing consideration of the "real world" issues concerning how smartphone application providers can most effectively incorporate or offer emergency calling as raised by the National Association of State 911 Administrators ("NASNA").[2] Because technology persistently challenges established practices and expectations, Bandwidth believes the public interest is best served by embracing communication innovations that spring from IP technologies while simultaneously striving to meet the critical emergency service needs of consumers and public safety professionals alike. In trying to balance innovation and emergency calling support, Bandwidth urges the Commission to carefully avoid heavy-handed regulations that may stymie the development of consumer-driven marketplace advancements that can ultimately yield more robust emergency calling capabilities for all stakeholders.

[1] FCC, 911 Apps Workshop (May 8, 2015), https://www.fcc.gov/news-events/2015/05/911-apps-workshop.
[2] Letter from Evelyn Bailey, Executive Director, National Association of Sate 911 Administrators, to Tom Wheeler, Chairman, FCC (October 18, 2016), RM-11780 ("NASNA Letter").

To this end, Bandwidth supports the Commission's on-going efforts to confront the myriad issues in the 911 emergency calling arena as articulated in the *911 Governance Policy Statement and NPRM*[3] and elsewhere. Consistent attention to the on-going viability and reliability of 911 is critical as "hybrid networks", technologies and services continue to evolve.[4] Bandwidth agrees with NASNA that the Commission, and the industry as a whole, should work to ensure that critical strengths within the current 911 services environment are preserved at the outset, and make regulatory changes aimed at targeted improvements only when such changes are demonstrably evident.[5] Advancing key, narrowly tailored and consensus-based objectives will yield more robust results sooner than sweeping reform of 911 will. Thus, while the communications landscape is rapidly developing toward mobile-IP services, before seeking to expand the regulatory compliance obligations on "smartphone applications", it makes sense to collect and analyze reliable data at the outset and only then seek to establish clear objectives and reasonable procedures for achieving targeted improvements for all stakeholders.[6]

II. BANDWIDTH'S RESPONSES TO THE SPECIFIC ISSUES RAISED BY NASNA

At the outset, Bandwidth notes that the NASNA inquiry generally highlights an on-going need to define the smartphone applications that *may* include emergency calling as opposed to services that *must* include emergency calling. As the Commission acknowledged in its *911 Governance Policy Statement and NPRM,* the nature of over-the-top ("OTT") smartphone voice or text applications in the marketplace creates questions regarding service classifications as well as state and Federal jurisdictional precedent.[7] Thus, in this RM-11780 inquiry or elsewhere, it would be beneficial for the Commission to present its

[3] *See generally: In the Matters of 911 Governance and Accountability, Improving 911 Reliability, PS Docket Nos. 14-193, 13-75*, Policy Statement and Notice of Proposed Rulemaking, FCC 14-186 (rel. Nov. 21, 2014) (hereinafter "*911 Governance Policy Statement and NPRM*").
[4] *Id.* at ¶ 13.
[5] *See generally* NASNA Letter.
[6] *See 911 Governance Policy Statement and NPRM* at ¶ 35: ("To the extent that technology transitions and changes in the market for 911 services create real or perceived gaps in delivery of reliable resilient 911 service, the Commission will act, in cooperation with state and local partners, to close gaps and set clear expectations regarding each service.")
[7] *911 Governance Policy Statement and NPRM* at ¶¶ 57-63; *See also: In the Matter of Wireless E911 Location Accuracy Requirements, E911 Requirements for IP-Enabled Service Providers, PS Docket No. 07-114 and WC Docket No. 05-196,* Further Notice of Proposed Rulemaking and Notice of Inquiry, FCC 10-177 (rel. Sept. 23, 2010) at ¶¶ 31-32.

current legal positions regarding which service offerings may be subject to established 911 calling compliance obligations and which services are not. An expression of the Commission's position in this manner would help reduce confusion both in the communications marketplace as well as the emergency service community.

Then, beyond the general need for guidance regarding how 911 is implicated by "smartphone apps", pursuant to the Commission's request, Bandwidth briefly responds to NASNA's eleven specific requests of the Commission concerning "911 apps" below.

NASNA's Specific Requests for Commission Action and Bandwidth's Comments:

• Ensuring that what is being added by way of a new service will not harm in any way how consumers currently access 911 service from a smartphone, including slowing down the process of gaining access to the 911 system.

Comment:

To "first do no harm"[8] is a valid policy objective that Bandwidth supports. However, call delivery speed alone should not be viewed as the only indicator of success in emergency calling. As technology advances, consumers are seeking to access emergency assistance in a variety of new ways and IP-based and hybrid network service providers are working hard to support innovative uses. In an emergency there is no question that 'every second counts', yet, proposing the speed with which a call accesses the 911 system must be the preeminent consideration fails to take into consideration the potential value of more rich content or the insurance of location accuracy in emergency calls. Further, when considering the overall end-user experience, additional call handling time associated with call takers transferring calls as the result of a cellular misroutes is an example of where calls may actually take longer in the end because data collection on the originating end of the call may not have been as robust as it could be. Thus,

[8] A modern colloquial reference to the *Hippocratic Oath* taken by new physicians. *See:* https://en.wikipedia.org/wiki/Hippocratic_Oath

Bandwidth suggest that perhaps better measures of emergency call delivery success can include considerations such as: decreased time for emergency personnel to arrive on scene; reducing the number of cellular misroutes; or reduction of the number of calls received with no location information at all; or increasing the number of calls that include more useful information than may be presented in a traditional PSTN 911 call.

• Ensuring that 911 apps do not present a danger to emergency responders, or interfere or impede them in the process of responding to calls for service.

Comment:

As discussed at above, Bandwidth notes that NASNA appears to be raising this issue and the other issues in the specific context of a " 911 app" or an OTT application that is specifically being offered as a method to make 911 calls, as opposed a more general voice or text applications. With that understanding, it is reasonable to expect that all parties would agree that emergency responders should not be put to additional risk by virtue of how the emergency call for help is made. Because there is likely to be universal agreement on this point however, it is unclear why an OTT 911 app would be singled out for more strenuous regulation than any other service that includes emergency calling would. Any new rule that may be considered here should be applied on a non-discriminatory technology-neutral basis to the greatest degree possible. Further, stakeholders should continue to expect that emergency calls continue to be funneled to the PSAP for dispatch to first responders, and not directly to first responders. Lest there be confusion, Bandwidth agrees that the PSAP, or any future version of the PSAP, should remain the "911 gatekeeper" and make appropriate determinations regarding what information is passed to first responders.

• Prohibiting the ability to enter and override location information generated by the device and enabling location data to be "spoofed" in a manner that displays information for the purposes of misleading the PSAP and first responders.

Comment:

While it is an unfortunately common form of abuse in the industry, "spoofing" 911 call information with the intent to mislead emergency service personnel is already an illegal act that does not require further regulation by the Commission at this time.[9] However, entering location information that may be derived from an end-user's device into emergency call data should not be conflated with illegal or improper "spoofing." Current law, Commission rules and industry standards and best practices fully adopt the goal to present the most accurate location information available in a format that is most readily utilized by emergency call takers.[10] In fact, there are entirely valid instances where overriding initial location information is regularly performed. For example, as IP-enabled calling continues to become increasingly mobile, the need for location updates increases and raises the specter of how to obtain and present the most accurate location information available at the time an emergency call is made. As the Commission is aware, with IP technology advances, there are likely to be cases where the most accurate information may not be generated solely by an end-user's device but may draw upon a variety of network components to derive the most accurate location data for emergency purposes. [11]

• Ensuring that the 911-related features of a new smartphone application or service have been thoroughly tested to specific standards, including interoperability and downstream dispatching considerations.

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[9] 47 U.S.C. §227(e); *In the Matter of Rules and Regulations Implementing the Truth in Caller ID Act of 2009, WC Docket No. 11-39*, Report and Order, FCC 11-100, (rel. June 22, 2011)..

[10] 47 C.F.R. § 9.5, 47 C.F.R. §20.18; *See also*: *In the Matter of Wireless E911 Location Accuracy Requirements, PS Docket No. 07-114*, Third Further Notice of Proposed Rulemaking, FCC 14-13 (rel. Feb. 21, 2014) at FN 2. ("We note however, that we will continue to examine whether it is appropriate to establish indoor location requirements for other categories of services – including service by VoIP and over-the-top providers.").

[11] *See* Letter to Marlene Dortch, Secretary, Federal Communications Commission from John Wright, et al., (Nov. 18, 2014), PS Docket 07-114, (Including "Roadmap for Improving E911 Location Accuracy).

Comment:

Bandwidth believes this issue is best addressed by industry standards bodies where relevant stakeholders can consider the need for new technical standards that meet the industry's needs that may be created by the introduction of new innovative services. Having said this, continuing to require 911 calls be routed to the PSAP should take care of perceived problems with upstream or downstream interoperability. The PSAP should continue to have the means of identifying which Telephone Service Provider routed the 911 call even as new 911 apps are introduced into the ecosystem.

• Ensuring that 911 app providers are factually accurate in their marketing materials and do not mislead the public regarding how the product works, given the critical nature of 911 service and a request for emergency assistance.

Comment:

Transparency from service providers regarding the nature of the services offered and provided to end-users is an important objective that Bandwidth supports. Here again however, the Commission must avoid unnecessary, duplicative and burdensome regulation. In the instance of "false and misleading advertising", courts and the Federal Trade Commission are already well equipped to regulate and enforce federal laws concerning such matters.

• Prohibiting inaccurate claims from a 911 app provider that a state, regional, or local 911 governmental authority has approved, supports, or endorses, any particular product.

Comment:

Trying to ensure accurate advertisements should not be the focus of the Commission.

• Prohibiting inaccurate claims from a 911 app provider that the lack of cellular or broadband coverage in any geographic area is a failure of the state, regional or local 911 system.

Comment:

Policing service providers' coverage descriptions should not be a priority of the Commission.

• Ensuring that the addition of a "911 call button," a dedicated sequence of button use for 911 calling or texting, or buttons for individual types of emergencies, will not accidentally generate repeated pocket dialed 911 calls or 911 texts from the consumer.

Comment:

This issue appears to be similar to the well-known problem with 911 "butt dials" that has become common with widespread adoption of smartphones. Bandwidth agrees that stakeholders should establish industry best practices for how to minimize accidental and/or repeated dialing of 911 on a technologically neutral basis.

• Limiting or prohibiting apps designed to generate duplicate requests for emergency assistance automatically (e.g., having the smartphone generate a separate text-to-911 message when a person dials 911; or automatically sending a smartphone location link in the body of a text-message that could be viewed as a malicious link; or automatically sending a pre-recorded message that may go on too long or indefinitely).

Comment:

Notwithstanding its support for industry best practices that aim to ensure the most effective emergency calling treatments are shared by relevant stakeholders as stated above, Bandwidth objects to the idea that the Commission or any other regulatory body should be in the role of controlling innovation in the marketplace. Rather, as the Commission itself has stated, regulations by the Commission should "not require Commission approval of new entrants or delay the introduction of innovative new 911 technologies."[12] Further, it is important to emphasize that lack of adoption of advanced technologies by PSAPs or other government

[12] *911 Governance Policy Statement and NPRM* at ¶ 59.

agencies should not be a "tail that wags the dog" where "the dog" in this case is the communications industry writ large and arguably one of the most important economic engines in modern society.

• Providing for the development of specific standards for communicating and displaying supplemental consumer or incident information in the context of a 911 call for dispatching purposes, with the intent of improving emergency response.

Comment:

Standards development is best left in the hands of established expert standards bodies such as NENA, APCO, and CSRIC and does not necessitate additional standards work by the Commission.

• Requiring adherence to industry standards for the interconnection to NG911 systems and ensuring that 911 apps use appropriate public-safety grade delivery networks and methods for message routing. Has the application been tested and verified to meet NENA standards for data transmission?

Comment:

Bandwidth is among the select few industry leaders for enabling 911 call routing and delivery and it regularly participates in industry efforts to establish standards and best practices. Authorized and experienced emergency service providers serve the public interest admirably and there is every reason to believe they will continue to do so in the future. Nevertheless, new IP-enabled services do challenge traditional practices and require adaptations. Therefore, it becomes incumbent upon the industry stakeholders as a whole to adapt to IP-enabled services such as "911 apps" even while it may not necessarily mean that the Commission must impose new regulations if established rules remain relevant. Precise data gathering and analysis combined with targeted regulatory reform should enable growth and innovation in emergency services that spur enhancements for consumers of IP-technologies.

III. CONCLUSION

Bandwidth appreciates the opportunity to comment on the NASNA Letter and the Commission's on-going efforts to protect consumers as innovative IP-enabled services grow. OTT applications of all kinds continue to flourish and Bandwidth is committed to enabling application end-users with the ability to reach emergency responders when they need them. "911 apps" are one form of consumer-driven innovation we are experiencing today and Bandwidth hopes many more valuable "smartphone apps" are on the horizon as well. NASNA's perspectives as articulated in its letter are important to understand and Bandwidth looks forward to a committed effort among all industry stakeholders to resolve critical gaps in 911 emergency calling services that may arise as IP technologies proliferate further. Yet, carefully allowing consumer-driven innovations around emergency services will also be paramount as the Commission considers any such perceived gaps and whether remedial regulatory actions are necessary.

Respectfully submitted,

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